



ANALYTICAL SPECIALIST (RESEARCH AND DEVELOPMENT)/RESEARCH ASSISTANT

DEPARTMENT/UNIT	School of Earth Atmosphere and Environment
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level A
WORK LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu.

The **School of Earth, Atmosphere and Environment** is located in the **Faculty of Science** (www.monash.edu/science) and has close collaborations with other Schools, such as Physics, Chemistry and Biology, and with other Faculties, such as Business and Economics, Arts, and Engineering. The School has strong links with outside institutions such as CSIRO, The Australian Synchrotron, and Geoscience Australia as well as a large number of research institutes and universities globally. The School is multidisciplinary with a range of research groups in Solid Earth Sciences, Atmospheric and Climate Sciences, and Environmental Sciences. A detailed list of research groups and current and future topics can be found on the School's [webpage](#).

The School has a suite of world-class research facilities in geochemistry within the framework of the school's Isotopia Laboratory. These include: ThermoFisher Neptune plus MC-ICP-MS, Triton plus TIMS, triple-quadrupole iCAP-TQ and single-quadrupole iCAP-Q ICP-MS, ASI-RESOLUTION ArF 193 nm excimer, New Wave UP 213 nm Nd-YAG solid state laser ablation systems, class 350 clean laboratories for isotope geochemistry, two Thermo Fisher Delta Plus Advantage, Carlo-Erba elemental analyser, Thermo Fisher H-Device, iCAP 7400 Duo ICP-OES and Ion Chromatograph, see our [webpage](#). The School also benefits from access to state-of-the-art user facilities for materials and biological research such as the Monash Centre for Electron Microscopy, the Monash X-ray Platform, the Monash Micro Imaging Facility and the Australian Synchrotron, which is located immediately adjacent to Monash's Clayton campus.

POSITION PURPOSE

The Analytical Specialist (Research and Development)/Research Assistant is expected to contribute towards the research effort of the University and to develop their research expertise, whilst supporting the high-quality equipment of the laboratory.

This role is responsible for overseeing and delivering high-quality analytical services to support the operations of the mass spectrometry and associated laser ablation systems, in particular in tandem in a split-stream mode. The incumbent plays a critical role in supporting the Pulse of the Earth research project (led by P. Cawood) and the broad fields of geochemical research within the school. The position will maintain existing and develop new techniques in mass spectrometry as well as collaborate with other geochemical specialists to support the research and teaching efforts of the School.

The Research component for this role also includes overseeing and undertaking testing, equipment maintenance, developing operating procedures, data analysis, computing, operational and budget planning, while ensuring a compliant and safe operating environment.

Reporting Line: The position reports to a senior academic in the School of Earth Atmosphere and Environment

Supervisory Responsibilities: Although there is no direct supervision of personnel, this role supervises the staff/students who uses the equipment/laboratories, and also the safe work practices of the school

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. The conduct of analytical research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
2. Oversee and administer the operation and maintenance of high-quality technical services or programs relating to the use of the mass spectrometers within the School, reporting on and minimising risks, undertaking data analysis, interpretation of results and reporting in accordance with operational standards, policies, timeframes and regulatory compliance requirements
3. Provide technical support to clients, staff, students and other stakeholders in the operation and maintenance of the School's laser ablations systems, including the development of new instrumental techniques and compliance with technical standards and protocols
4. Day-to-day operations of laboratory and maintenance of HR-MC-ICP-MS and laser ablation systems, conducting experiments, testing or data collection activities, ensuring OHS&E compliance and safe operations, maintaining equipment and materials, waste disposal and ordering of supplies
5. Involvement in research professional activities including, attendance at conferences and seminars in the field of expertise, including contributing to the research programs to enhance school's research mission
6. Assist in preparing for budgetary activities for the research technical service or facility, including contributing to funding proposals and supporting the preparation of budget reports
7. Build and sustain partnerships, collaborations and networks with academic and other staff, relevant research/technical bodies, to meet and support the strategic plans and goals of the school and faculty

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - An honours degree in the relevant discipline or have equivalent qualifications in geochemistry, chemistry, mass spectrometry or physics with a substantial geochemical component or research experience; or
 - a progress towards a doctorate in the relevant discipline

Knowledge and Skills

2. A track record of refereed research publications in analytical geochemistry or in which analytical geochemistry is a key part
3. Demonstrated expertise in operating a successful program or laboratory facility, with a focus on operational excellence, with expertise in isotope geochemistry clean laboratory procedures and proficiency in operation of Inductively Coupled Plasma (ICP) Mass Spectrometers (MS) and laser ablation systems
4. High proficiency in sample preparation techniques for ICPMS analyses and laser ablation systems and demonstrated expertise in developing new analytical techniques, and the ability to adapt existing techniques, to meet specific user needs for ICPMS analyses
5. Proven experience in geochemical laboratory procedures and/or associated applications, preferably through peer-reviewed publications
6. Knowledge of implementing OHS requirements and providing advice about complex technical processes and use of specialised equipment
7. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise
8. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
9. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
10. Demonstrated relationship management skills, including the ability to interact with, negotiate with and gain co-operation from internal and external stakeholders
11. Proven technical skills to such as split-stream laser ablation systems (LASS), MC-ICP-MS operations or high precision isotope analyses

OTHER JOB RELATED INFORMATION

- On-call (Emergency/safety related matters) off hours or on weekends, e.g., in case of rare power outages
- There may be a requirement to work additional hours from time to time

LEGAL COMPLIANCE

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.